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June 3, 2010

Via Electronic Filing

Marlene H. Dortch
Secretary
Federal Communications Commission
445 12th Street, SW
Washington, D.C. 20554

Re: **EX PARTE**
ET Docket No. 09-36 - Amendment of Parts 2 and 95 of the Commission's Rules to
Provide Additional Spectrum for the Medical Device Radiocommunication Service in the
413-457 MHz Band

Dear Ms. Dortch:

On June 2, 2010, David Hankin, CEO of the Alfred Mann Foundation ("AMF"), Jaime Harrison of the Podesta Group, and the undersigned, counsel to AMF, met with Commissioner Mignon Clyburn and her acting legal advisor Louis Peraertz to brief them on the AMF medical micropower network service project and discuss the status of the above-captioned proceeding. The AMF representatives relied upon the attached PowerPoint presentation during the discussion.

Marlene H. Dortch
Federal Communications Commission
June 3, 2010
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Pursuant to Section 1.1206(b) of the Commission's rules, this letter is being filed electronically with your office.

Yours very truly,

/s/ Cheryl A. Tritt
Cheryl A. Tritt
Counsel to the Alfred Mann Foundation

Attachment

cc: Louis Peraertz

Medical Micropower Network Service in the 413-457 MHz Band

Mignon Clyburn
Commissioner
Federal Communications Commission

June, 2010

Alfred Mann Foundation

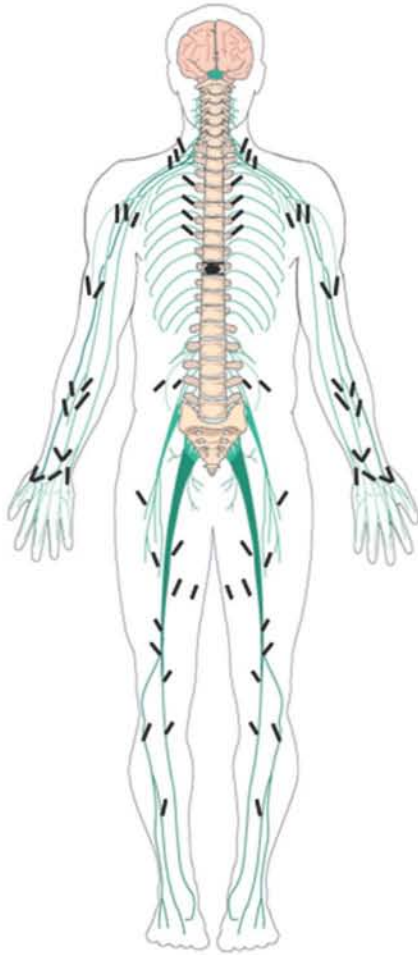
- Founded in 1985
- Non-profit engaged solely in medical research
- Initiated R&D on numerous advanced medical devices
 - Cochlear implant (profound hearing loss)
 - Retinal prosthesis (vision loss)
 - Fully implantable glucose sensor (diabetes)
 - Fully implantable drug pump (pain, diabetes)
 - Microstimulator System (paralysis)

AMF Microstimulator System

MCU



Clinician's
Programmer



Charger



Microstimulator
Implant

Objective

Secure secondary allocation of spectrum
for transformative medical technology

**413 – 419
MHz**

Emergency
Land Mobile
Radio

**426 – 432
MHz**

Radar

**438 – 444
MHz**

Radar

**451 – 457
MHz**

Commercial
Channel/Land
Mobile Radio

AMF Microstimulator System

- Movement Disorders
 - Restores function and sensation to paralyzed limbs and organs
 - Traumatic brain injury (signature injury from conflicts)
 - Stroke (~800,000 per year in US)
 - Spinal cord injury (~12-15K per year in US)
 - Multiple Sclerosis
 - Cerebral palsy
 - 2% of all Americans live paralysis
- Advanced Prosthesis
 - Provides wireless sensation and control to next generation prosthesis
 - Supported by NIH and part of DARPA arm project
 - Replaces less effective surface myoelectric sensors
 - Direct neural control

AMF's Transformative Technology Poised to Revolutionize Medicine

- Eyelid droop
- Facial palsy
- Shoulder Subluxation
- Sleep apnea
- Muscle atrophy
- Arm/hand rehab
- Cardiac assist
- Cough
- Pressure Ulcers
- Spasticity
- Bladder control
- Bowel control
- Gait rehabilitation
- Foot drop

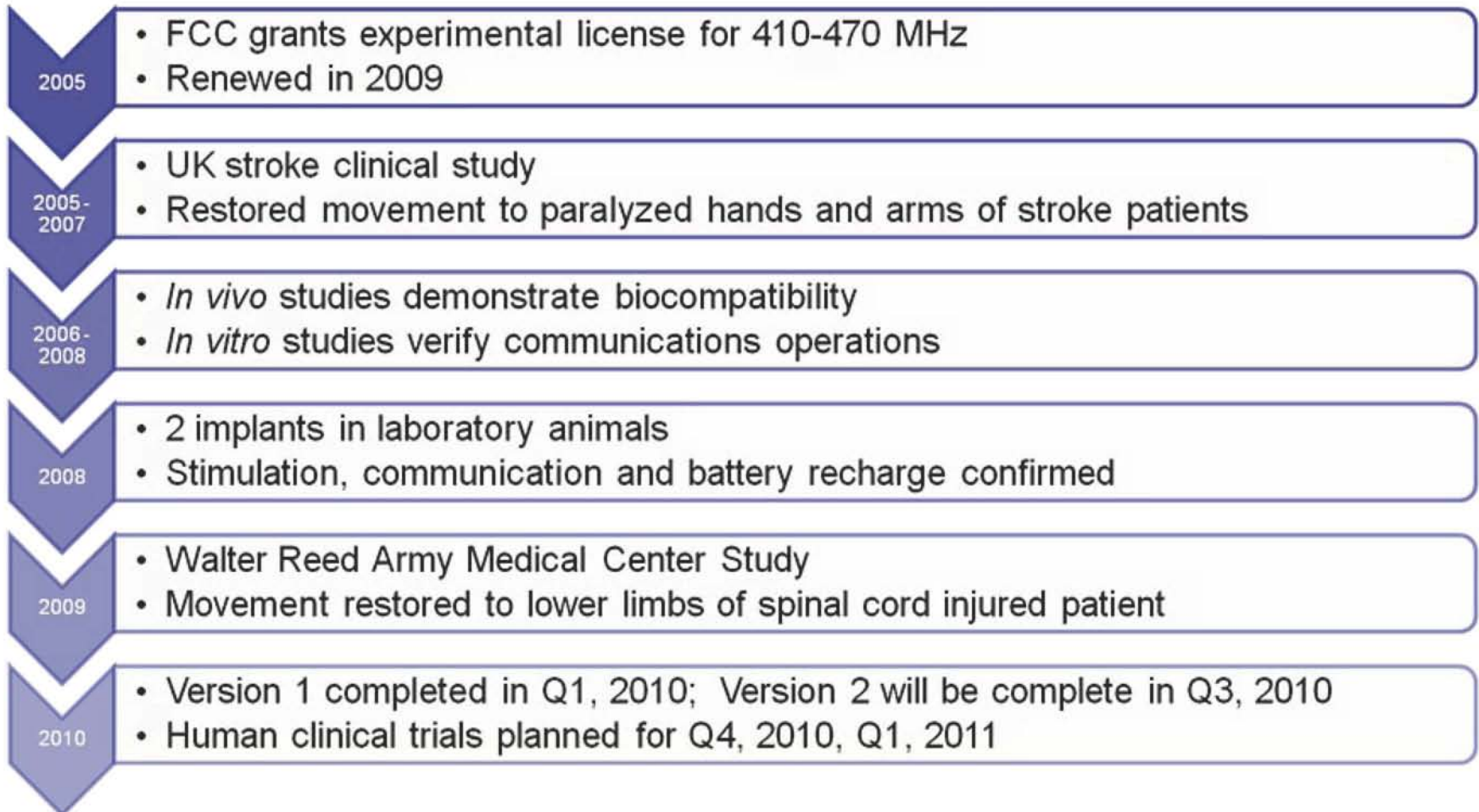


- Parkinson's disease
- Cerebral Palsy
- Vertigo
- Dysphagia
- FES Exercise
- Smart Prosthesis
- Arthritis
- Nerve Repair
- Nerve Regrowth
- And many more to come

Project Evolution

- 10 years in development
- 120 person team consisting of approximately 90 scientists of various disciplines
- To date, ~\$110 million (in tax exempt dollars) invested in development
 - Estimate \$120 million to complete
- Working with FDA, FCC, NTIA and other regulators for several years

Experimental Evolution



No Comparable System Exists Anywhere in the World

AMF Time Imperative

- 2010 - 2011 Planned Clinical Collaborations

Walter Reed/Bethesda Naval
Navy

Veteran's Administration

USC

Shriners Children's Hospital

National University of Ireland

Maintenance of anabolic function

TBI vertigo-like symptoms

TBI limb reanimation

Dysphagia (head and neck cancer)

Spasticity in CP children

Venous ulcers

- Treatment of injured returning warfighters

FCC Proceeding

Procedural Background

- FCC adopted a rulemaking that would provide secondary access to 413-457 MHz spectrum for wideband medical service
 - NPRM issued in March, 2009
 - Initial comment period ended on August 11, 2009
 - Reply period concluded on September 11, 2009
- Allocation request will go through NTIA IRAC process

NPRM Comments

- Supporters
 - Filed comments strongly supporting FCC proposal to allow MMN devices in the 413-457 MHz band
 - More than 50 supporting parties
 - Include a broad spectrum of interests, including Congressional leaders, government agencies, veterans organizations, medical research and treatment establishments, non-profit organizations, equipment manufacturers, doctors, scientists, and individuals with disabilities
- Detractors
 - Filed comments opposing the proposed MMN operations
 - Only a handful of parties
 - Include incumbent land mobile radio (APCO, LMCC, Motorola), broadcast auxiliary (MSTV and SBE), and amateur radio (ARRL)

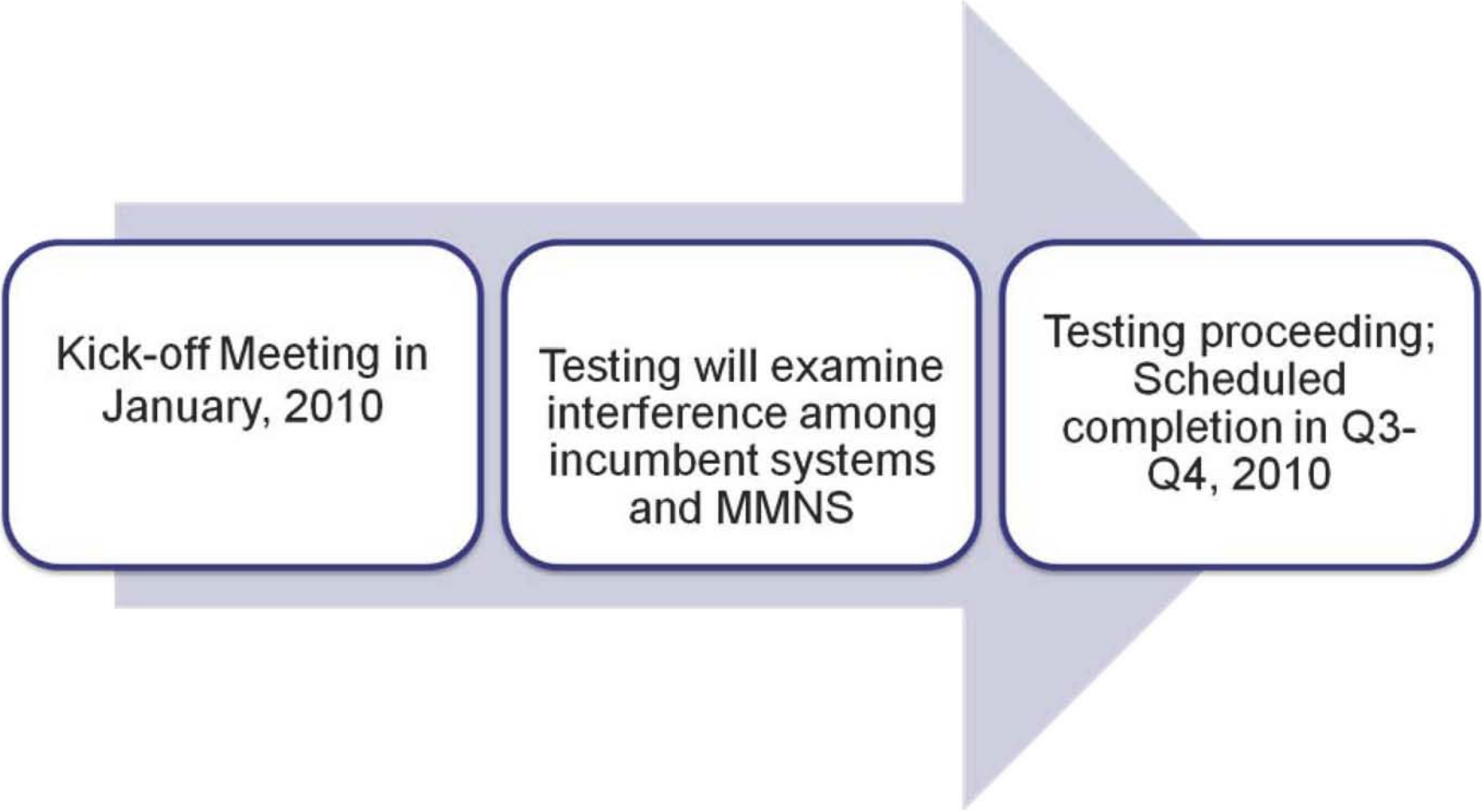
Response

- Lower 400 MHz band is ideal for wireless medical implant devices
 - Conclusion supported by data and accepted by both the FCC and the scientific community
 - Critical factors support conclusion
 - RF signal propagation within the human body
 - physical size and power consumption of implant devices
 - international frequency compatibility
- WMTS and Part 90 medical telemetry spectrum are unsuitable
 - Over-populated with other commercial, high-power transmitters
 - FCC rules limit the use of these bands to health care facilities to measure and record patient-related information
 - Mobile, more complex functions of MMN devices fall well outside the intended use of these frequencies

Response

- MMNs are designed specifically to avoid causing harmful interference to incumbent services through numerous operational factors and techniques
 - low power operation
 - low duty cycle
 - wideband operation
 - near-ground operation.
- MMNs will not receive harmful interference from incumbent services
 - message coding
 - spectral notching
 - dynamic channel switching
 - wideband operation
 - timing and filtering

Joint Testing with JSC



Kick-off Meeting in
January, 2010

Testing will examine
interference among
incumbent systems
and MMNS

Testing proceeding;
Scheduled
completion in Q3-
Q4, 2010

Appendix

Current Channel Allocation

INTERNATIONAL TABLE

UNITED STATES TABLE

FCC RULE PART(S)

* * * * *

Federal Table (MHz)

Non-Federal Table (MHz)

* * * * *

410-420
FIXED US13
MOBILE
SPACE RESEARCH
(space-to-space) 5.268
G5 US399

410-420
US13 US399

Private Land Mobile (90)
Personal (95)

* * * * *

420-450
RADIOLOCATION US217 G2 G129
5.286 US7 US87 US230
US397 G8 US399

420-450
Amateur US7 NG135
5.282 5.286 US87 US217 US230
US397 US399

Private Land Mobile (90)
Amateur (97)
Personal (95)

* * * * *

450-454
5.286 US87 US399

450-454
LAND MOBILE
5.286 US87 US399 NG112 NG124

Auxiliary Broadcasting (74)
Private Land Mobile (90)
Personal (95)

* * * * *

454-456

454-455
FIXED
LAND MOBILE
US399 NG12 NG112 NG148

Public Mobile (22)
Maritime (80)
Personal (95)

455-456
LAND MOBILE
US399

Auxiliary Broadcasting (74)
Personal (95)

* * * * *

456-460
5.287 5.288 US399

456-460
FIXED
LAND MOBILE
5.287 5.288 US399 NG112 NG124
NG148

Public Mobile (22)
Maritime (80)
Private Land Mobile (90)
Personal (95)